

REMARKS

At the outset, the Examiner is thanked for the review and consideration of the present application.

Claims 2-8, are pending for consideration in the present application, of which claims 6, 7, and 8 are independent.

Referring now to the detailed Office Action, claim 2, 3, and 8 stand rejected under 35 U.S.C. §103(a) as unpatentable over Black (U.S. Patent No. 4,051,777) in view of Mastromatteo (U.S. Patent No. 4,111,056). Further claim 4 stands rejected under 35 U.S.C. §103(a) as unpatentable over Black in view of Mastromatteo and further in view of Miller et al. (U.S. Patent No. 3,843,974 – hereafter Miller), claims 5 and 7 stand rejected under 35 U.S.C. §103(a) as unpatentable over Black in view of Mastromatteo and further in view of Kawahata et al. (U.S. Patent No. 5,019,202 – hereafter Kawahata), and claim 6 stands rejected under 35 U.S.C. §103(a) as unpatentable over Black in view of Mastromatteo and Miller, and further in view of Applicants' admitted prior art (AAPA).

Applicants note that the rejections in the Office Action of May 21, 2003 are substantially similar to the Office Action of January 2, 2003, except that the secondary reference to Atkinson (U.S. Patent No. 4,066,240) cited in the previous Office Action is now replaced by the Mastromatteo reference, and claims 2, 3, and 8 are rejected over Black and Mastromatteo. Hence, the rejections summarized above are respectfully traversed for the reasons set forth in the previously submitted Request for Reconsideration of March 7, 2003 and further for the reasons provided below.

The presently claimed invention recites a stencil printer comprising an ink supply diaphragm pump having, among other features, a diaphragm operable between a first position and a second position permitting fluid flow of ink.

The pending independent claim 8 recites a stencil printer comprising: an ink supply pump comprising a diaphragm pump having a diaphragm operable between a first position preventing fluid flow of an ink and a second position permitting fluid flow of the ink therethrough; and a drive assembly for driving the diaphragm between the first and second positions, wherein the diaphragm is driven by the drive assembly such that a stress is applied to the diaphragm is limited to less than 75% of the elastic limit of the diaphragm.

In the rejection of claims 2, 3, and 8, the Examiner states that "Mastromatteo teaches limiting deformation of a diaphragm to a stress below the elastic limit necessary so they will return from a pressure loaded position to the preloaded position to maintain a normal force." However, Applicants respectfully submit that Mastromatteo discloses a diaphragm used in a hydraulic device, wherein the diaphragm is used in conjunction with a liquid which acts to cushion, conforming to the shape of the diaphragm, thereby preventing damage to the diaphragm", as shown in the abstract of the reference.

Unlike the Examiner's interpretation of Mastromatteo in col. 6, lines 9-20, the cited text of Mastromatteo actually states the following:

"Effectively, the diaphragm 30, by means of the liquid 74, becomes an integral part of the upper housing wall 58 and, therefore, will remain in tact. If the valve seat 60 and the diaphragm 30 are disposed so that the valve member 34 is seated within the elastic of the diaphragm 30, the diaphragm will remain undistorted and resilient, ready for renewed use once the lost of liquid or integrity of the connection to the instrument 64 is restored."

Hence, the above-mentioned teaching of Mastromatteo has been misunderstood or mischaracterized as teaching "limiting deformation of a diaphragm to a stress below the elastic limit necessary so they will return from a pressure loaded position to the preloaded position to maintain a normal force."

Further, Applicants respectfully submit that Mastromatteo discloses diaphragm 30 as having concentric corrugations 32 which makes the central portion of the diaphragm flexible and sensitive to variations of pressure exerted upon it, as shown in col. 4, lines 6-8. Still further, the diaphragm 30 of Mastromatteo is not driven by a drive assembly between a first and a second positions as in the presently claimed invention.

Unlike Applicants' diaphragm that is actuated by a drive assembly to pump ink in a stencil printer, the diaphragm 30 of Mastromatteo is driven by hydraulic fluid and is utilized in a completely different manner, such as in automobile braking systems, for example, as disclosed in col. 12, lines 58-64 of Mastromatteo.

Hence, from the disclosed corrugated diaphragm, its use in a high pressure hydraulic system, and its use, all of which are different from Applicants' claimed invention, Applicants respectfully assert that it not possible to ascertain that the stress of the diaphragm of

Mastromatteo is or should be limited to less than 75% of the elastic limit of the diaphragm as recited in Applicants' claimed invention.

Simply put, Mastromatteo does not teach, disclose, or suggest that a stress applied is limited to less than 75% of the elastic limit of the diaphragm.

According to MPEP §2143.01, the prior art must suggest the desirability of the claimed invention. Applicants respectfully request the Examiner to provide concrete support in Mastromatteo, as well as Black, for Applicants' claimed diaphragm, wherein a stress applied to it is limited to a stress that is less than 75% of the elastic limit of the diaphragm, as recited in independent claim 8, as well as in independent claim 7.

Routine experimentation is not sufficient for providing the required motivation for a obviousness rejection. Nothing in the prior art cited in the Office Action would suggest the necessity or desirability of combining the corrugated fluid actuated diaphragm without a specific the maximum elastic limitation of Mastromatteo with a diaphragm in a pump of Black to arrive at Applicants' claimed invention..

Moreover, both the suggestion of the invention and the expectation of success must be found in the prior art, not in Applicants' disclosure. Selective hindsight is not appropriate to design experiments in order to reach the claimed invention. In re Dow Chemical, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988). In view of the above, Applicants respectfully submit that a *prima facie* showing of obviousness has not been made in the rejection of independent claims 7 and 8.

As Black and Mastromatteo are applied in the §103(a) rejection of independent claim 8, Applicants respectfully request that the §103(a) rejection of independent claim 8 and its dependent claims be reconsidered and withdrawn for the reason set forth above in relation to the rejection of independent claim 8.

With respect to the rejection of claims 5 and 7, wherein Kawahata is applied as a secondary reference, as discussed above, Black and Mastromatteo are deficient. Therefore, Kawahata, which was cited for disclosing an UV ray curing ink, cannot be combined with Black and Mastromatteo without providing a cure for the above-discussed deficiency.

With respect to Miller in the rejection of claim 6, the Examiner asserts that Miller teaches a diaphragm pump which is made of silicon rubber, and that silicon rubber is known to have a swelling ratio to the ink of less than 1.05, therefore it would be obvious to combine

Black, Miller, and AAPA to arrive at Applicants' claim 6. However, as submitted in the Amendment of February 27, 2001 and the Request for Reconsideration of March 7, 2003, Applicants respectfully submit again that not only is Miller non-analogous art, but Miller also fails to teach, suggest or disclose ink, let alone a swelling ratio to the ink not larger than 1.05 as recited in claim 6.

In contrast with the present invention of claim 6, Miller is directed toward an intimal lining pump with vertically drafted webs for a circulator assist device. Specifically, the pump of Miller is connected to a human arterial **blood supply** (see Abstract) and not ink. Therefore, Miller cannot possibly teach suggest Applicants' claimed swelling ratio.

"In order to rely on a reference for the basis of rejection of an Applicant's invention, the reference must either be in the field of Applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1433, 1446, 24 USPQ 2d 1443, 1445 (Fed. Cir. 1992). Applicants respectfully submit that since Miller is used in connection with pumping blood, Miller is not pertinent to the particular problem solved by Applicants' invention.

Further, the Examiner is reminded of the requirements set forth in MPEP §2143.01 cited above. Miller does not suggest the desirability of the claimed invention recited in claim 6.

Accordingly, Applicants respectfully submit that Miller, either alone or in combination with Black and AAPA, fails to teach, suggest or disclose the swelling ratio to ink as claimed. Accordingly, withdrawal of the rejection of claim 6 under 35 U.S.C. §103(a) is respectfully requested.

In view of the arguments set forth above, Applicants respectfully request reconsideration and withdrawal of all the pending rejections.

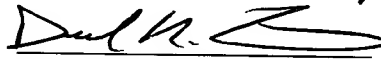
Having responded to the rejection set forth in the outstanding Office Action, it is submitted that claims 2-8 are now in condition for allowance. An early and favorable Notice

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of Allowance is respectfully solicited. In the event that the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, the Examiner is courteously requested to contact Applicants' undersigned representative.

Respectfully submitted,

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